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U-006-305 .53

**FINAL COMMENTS ON THE OU 4 REMEDIAL INVESTIGATION AND
FEASIBILITY STUDY REPORTS**

08/02/94

USEPA

DOE-FN

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COMMENTS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF:

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: Final Comments on the OU 4
Remedial Investigation and
Feasibility Study Reports

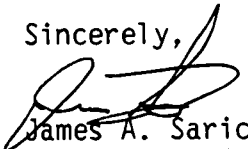
Dear Mr. Craig:

Enclosed are the United States Environmental Protection Agency's (U.S. EPA) final comments on the risk assessment for the Final Operable Unit (OU) 4 Remedial Investigation (RI) and Feasibility Study (FS) Reports.

These comments are to be made part of the administrative record, and the required changes are to be incorporated into future risk assessment documents for other OU's. However, since many of these issues have been discussed in subsequent meetings and reports, no further revisions to the OU 4 reports are required.

Please contact me at (312) 886-0992 if you have any questions.

Sincerely,


James A. Saric
Remedial Project Manager
Technical Enforcement Section #1
RCRA Enforcement Branch

Enclosures

cc: Tom Schneider, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ
Don Ofte, FERMCO
Jim Theising, FERMCO
Paul Clay, FERMCO

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: July 11, 1994

SUBJECT: Review of Final Changes for the RI Report for Operable
Unit 4, Fernald Environmental Management Project (FEMP),
Fernald, OH, May 20, 1994

FROM: Pat Van Leeuwen, Toxicologist *PV*
Technical Support Unit

TO: Jim Saric
Project Manager

I have reviewed the changes for the Final Remedial Investigation Report for Operable Unit 4 of the Fernald Environmental Management Project (FEMP). A few further clarifications still seem to be in order. My comments follow.

If you have any questions on these comments or any risk assessment issues, please contact me at 886-4904.

Section D.3.4.1, Page D-3-68

The action is acceptable, even though it implies that the IEUBK Model default values cannot be used to derive a soil screening value (version 0.99d will generate a value of 400 ppm). DOE should also be aware that the text is badly outdated. The EPA (1991d) directive is given as the most recent memorandum and the March 23, 1994 memorandum from Henry Longest "Transmittal of Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children and IEUBK Model, Version 0.99d" is not cited; the text, section D.4.2.11.2, refers to the state-of-the-science as of July 21, 1993.

Table D.4-1, footnote f

Instead of being defensive, DOE should check their submittal. My copy showed the phrase in question "Chemical/Wilmington, Delaware)," dated Octer 9, 1990" was listed twice. One time is sufficient, twice is superflous. The citation should be given once. By the way, the spelling is yours; check your text!

Table D.7-2

The addition of the footnote is acceptable for this report only. Due to the complexity of this site, the two-

significant-digit format used in the Attachment A, Table D.7-2, is preferable, and should be used in all future submissions to avoid this problem.

In addition, the title for Table D.7-2 is ambiguous in it's reference to "toxicity". It should indicate that non-carcinogenity or non-carcinogenic toxicity or HIs are the subject of the table.

Page D-I-12, Example Calculation

The action is acceptable.

Page D-I-11, Section D.1.3.3

In the last paragraph, I do not understand the comment "volatilization is not a significant pathway because penetration through the skin is minimal". Volatilization is calculated as part of the inhalation pathway; penetration through the skin relates to the dermal pathway. The two pathways are neither mutually inclusive nor mutually exclusive for all compounds. Perhaps the statement is meant to explain that both volatilization of metals and penetration of metals through the skin are minimal, and thus the groundwater inhalation and dermal absorption pathways were not presented for uranium. Please correct the text statement.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: July 12, 1994

SUBJECT: Review of the Response to Comments for the Final FS
Report, Operable Unit 4, Fernald Environmental Management
Project (FEMP), Fernald, OH, June 1994

FROM: Pat Van Leeuwen, Toxicologist
Technical Support Unit

TO: Jim Saric
Project Manager

I have reviewed the responses to my comments on the
OU 4 Feasibility Study/Proposed Plan/Draft Environmental Impact
Statement, submitted on June 2, 1994. My response follows.

If you have any questions on these comments or any
other risk assessment issues, please contact me at 886-4904.

OU 4 FS COMMENTS

17) Original Table D.3-6

The response to this comment is acceptable.

18) Table D.3-9, page D-3-35

c) The response to this comment is acceptable.

19) Page D-3-34, lines 14-17

The response to this comment is acceptable.

OU 4 CRARE COMMENTS

8) Recreational User Definition

The response is acceptable.

13) Toxicological Profiles

The inclusion to the Lead Tox Profile is acceptable.
The outlined concerns remain.

The concern over the use of degradation half-lives obtained under laboratory conditions to eliminate chemicals using the described screening process was raised in the April 11, 1994 Memorandum from ECAO and Attachment: "Risk Assessment Issue Paper: Review of Degradation of PAHs in Soil"; I echo their concern. The process eliminates chemicals from future monitoring, without any real assurance that the approach is protective. Laboratory responses may not reflect on-site responses; only future monitoring will determine whether degradation is proceeding in the proposed manner.

If all chemicals degraded in the manner suggested, the number of existing Superfund sites would be greatly reduced.

I would like to see the ECAO submissions and my comments on this issue retained as discussion points in all future editions of the CRARE.

As for the comments regarding the less than lifetime exposure to carcinogens, it cannot be ascertained that degradation will proceed at any defined rate which will produce a continuously decreasing incremental risk. In any case, the probability of any adverse health effect from exposure to carcinogens increases with each incremental exposure, so that even reduced incremental exposures may have a significant impact. The idea that the total risk will decrease due to degradation and transport is erroneous.

In addition, as previously stated, short term exposure to residual levels of some site carcinogens might be all that is needed to produce an adverse response. Noncarcinogens might also produce adverse health effects from short term exposures. I suggest that alternate methodologies, i.e., evaluation of the effect of exposure to average concentrations of all residual contaminants over successive future time periods (such as ten-year periods) be considered in order to arrive at the best evaluation strategy for the site.